CLAIMS

1. An intraocular device for implanting within a patient's eye, the device including an optic member for location in the eye such that the patient sees through the optic member, and means for altering the shape of the optic member to alter its focussing power and thereby alter the focus of the patient's eye.

2. An intraocular device according to claim 1, wherein the optic member is configured for location in front of the normal lens of the eye.

3. An intraocular device according to claim 1 or claim 2, wherein the optic member is configured for location outside the capsular bag which contains the normal lens of the eye.

4. An intraocular device according to any of the preceding claims, wherein the shape of the optic member is alterable between a relaxed shape in which it provides substantially no focussing effect and a focussing shape in which it provides between 3 and 6 dioptres of focussing power.

5. An intraocular device according to claim 4, wherein the optic member provides between 4 and 5 dioptres of focussing power when in the focussing shape.

6. An intraocular device according to claim 4 or claim 5, wherein in the focussing shape, the optic member is convex on at least one side.

7. An intraocular device according to any of claims 4 to 6, wherein the optic member is caused to alter its shape from the relaxed to the focussing shape in response a stimulus which causes focussing of the lens of a normal young eye.

8. An intraocular device according to claim 7, wherein the extent of change in shape and focussing effect of the optic member is a function of the magnitude of the stimulus, for example the extent of the contraction of the ciliary muscle.

9. An intraocular device according to claim 8, wherein the extent of change in the focussing of the optic member is proportional to the magnitude of the stimulus.

10. An intraocular device according to any of the preceding claims, wherein the intraocular device includes a fluid reservoir.

11. An intraocular device according to claim 10, wherein the optic member includes a central cavity which is in communication with the fluid reservoir.

12. An intraocular device according to claim 10 or claim 11, wherein the reservoir contains a volume of fluid.

13. An intraocular device according to claim 12, wherein the fluid is a transparent liquid.

14. An intraocular device according to claim 12 or claim 13, wherein the means for altering the shape of the optic member includes means for causing fluid to move from the reservoir into or out of the central cavity of the optic member.

15. An intraocular device according to claim 14, wherein the device is configured such that fluid moves into the cavity in response to contraction of the ciliary muscle.

16. An intraocular device according to claim 15, wherein the amount of fluid moving into the cavity is a function of the extent of contraction of the ciliary muscle and may be proportional thereto.

17. An intraocular device according to any of claims 14 to 16, wherein the cavity is defined within walls which are biased into a position in which the cavity contains substantially no fluid, but which may flex into a position in which the cavity contains fluid.

18. An intraocular device according to claim 17, wherein fluid is caused to move from the cavity into the reservoir in response to relaxation of the ciliary muscle, allowing the bias of the walls of the cavity to force the fluid back into the reservoir.

19. An intraocular device according to claim 17 or claim 18, wherein the walls of the central cavity includes an anterior wall and a posterior wall between which the central cavity is defined.

20. An intraocular device according to claim 19, wherein the anterior wall comprises a flexible, substantially transparent membrane which in an unstressed condition is substantially planar.

21. An intraocular device according to claim 19 or claim 20, wherein the posterior wall comprises a planar, transparent member.

22. An intraocular device according to claim 21, wherein the planar, transparent member is rigid.

23. An intraocular device according to any of claims 19 to 22, wherein when there is substantially no fluid in the cavity, the anterior and posterior members lie substantially adjacent to one another, causing the central cavity to have substantially no volume.

24. An intraocular device according to any of claims 19 to 23, wherein when fluid is present in the reservoir, the anterior wall flexes away from the posterior wall, into a convex shape.

25. An intraocular device according to any of claims 20 to 24, wherein the anterior wall has a sufficient degree of elasticity and elastic memory that it returns to its unstressed, planar condition on relaxation of the ciliary muscle.

26. An intraocular device according to any of claims 11 to 25, wherein the intraocular device further includes a conduit which provides a fluid connection between the central cavity in the optic member and the reservoir.

27. An intraocular device according to claim 26, wherein the conduit comprises a capillary tube connecting the reservoir and the cavity.

28. An intraocular device according to claim 27, wherein the capillary tube has an internal diameter of between 0.5 and 1.5 mm.

29. An intraocular device according to claim 27 or claim 28, wherein the capillary tube is transparent.

30. An intraocular device according to any of claims 27 to 29, wherein the tube is substantially rigid so that it does not deform when fluid is conveyed through it.

31. An intraocular device according to any of claims 10 to 30, wherein the reservoir is configured for location adjacent to ciliary muscle in the ciliary sulcus of the patient's eye.

32. An intraocular device according to claim 31, wherein the reservoir is shaped such that when it is in place adjacent the ciliary muscle, contraction of

the ciliary muscle causes the compression of the reservoir, thus forcing fluid to the cavity in the optic member.

33. An intraocular device according to claim 31 or claim 32, wherein the reservoir includes a peripheral part which abuts against the ciliary muscle, the peripheral part being flexible.

34. An intraocular device according to claim 33, wherein the reservoir further includes a base part, the peripheral part and base part together defining a chamber for the fluid.

35. An intraocular device according to claim 34, wherein the base part is substantially rigid.

36. An intraocular device according to any of claims 33 to 35, wherein the reservoir is configured such that contraction of the ciliary muscle causes compression of the peripheral part, thus forcing fluid from the reservoir into the central cavity of the optic member.

37. An intraocular device according to any of claims 31 to 36, wherein the device includes two reservoirs which are configured to be diametrically opposed, for example in top and bottom regions of the ciliary sulcus of eye, each reservoir being connected to the optic member via a capillary tube.

38. An intraocular device according to any of the preceding claims, wherein the optic member is configured for location in the region of the eye to the rear of the iris.

39. An intraocular device according to claim 38, wherein the optic member is spaced from the normal lens of the eye.

40. An intraocular device according to claim 38, wherein the optic member is configured for location adjacent to the normal lens.

41. An intraocular device according to any of claims 1 to 37, wherein the optic member is configured to locate in front of the iris of the eye.

42. An implant for insertion into a patient's eye, the implant including an artificial lens and an intraocular device according to any of the preceding claims, the artificial lens and the optic member of the intraocular device being positioned in the line of sight such that the patient sees through both.

43. An implant according to claim 42, wherein the artificial lens is substantially rigid.

44. An implant according to claim 42 or claim 43, wherein the optic member is positioned adjacent to the artificial lens.

45. An implant according to claim 44, wherein the optic member covers a central part of the anterior surface of the artificial lens.

46. An implant according to claim 45, wherein the optic member is fused with the central part of the artificial lens.

47. An implant according to any of claims 42 to 46, wherein the intraocular device is configured for location in the ciliary sulcus of the eye, between the lens and the iris.

48. An implant according to claim 47, wherein the intraocular device is configured for location outside the capsular bag, behind the iris, in contact with the ciliary muscle, in a position to be compressed by the contracting ciliary muscle.

49. An intraocular device for implanting within a patient's eye substantially as hereinbefore described and/or as shown in the accompanying drawings.

50. An implant for insertion into a patient's eye substantially as hereinbefore described and/or as shown in the accompanying drawings.

51. Any novel subject matter or combination including novel subject matter disclosed herein, whether or not within the scope of or relating to the same invention as any of the preceding claims.